



AN ROINN COMHSHAOIL, ODHREACHTA AGUS RIALTAIS ÁITIÚIL

**DEPARTMENT OF THE ENVIRONMENT, HERITAGE
AND LOCAL GOVERNMENT**

CONVENTION ON NUCLEAR SAFETY

**FOURTH NATIONAL REPORT BY
IRELAND**

**DEPARTMENT OF THE ENVIRONMENT,
HERITAGE & LOCAL GOVERNMENT**

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CONVENTION ON NUCLEAR SAFETY

NATIONAL REPORT BY IRELAND

IN ACCORDANCE WITH ARTICLE 5 OF THE CONVENTION

Introduction

1. This report gives an outline of the national policy, State institutional framework and general legislation governing nuclear matters in Ireland. It also sets out measures adopted by Ireland to implement the relevant obligations of the Convention.

National Nuclear Policy

2. Ireland has rejected the use of nuclear power for energy requirements and does not therefore have any nuclear installations, research reactors or fuel storage/recycling facilities. Ireland's policy priorities concentrate therefore on improving nuclear safety and radiological protection and on emergency preparedness.. This involves close contact with regulatory authorities in other countries. Ireland also participates in a number of IAEA, NEA and EU committees and working groups on a range of issues relating to nuclear safety
3. Responsibility for nuclear policy is vested in the Minister for the Environment, Heritage and Local Government. The Department of the Environment, Heritage and Local Government (DEHLG) is responsible for:-
 - Implementing national policy in relation to nuclear matters,
 - The transposition into national legislation of all relevant EU and other international legal instruments,
 - Co-ordination of the national nuclear emergency plan,
 - Representation at EU, IAEA and other international organizations

Applicability of Convention on Nuclear Safety to Ireland

4. As Ireland does not have any nuclear installations as defined in the Convention, the applicability to Ireland of the obligations of the Convention set out in Chapter 2 of the Convention is limited to Articles 4, 5, 7, 8 and 16.3. Ireland's compliance with these obligations is discussed below.

Article 4 – Implementing Measures

These measures are set out in this Report

Article 5 –Reporting

The submission of this National Report fulfils this obligation

Article 7 – Legislative and Regulatory Framework

5. The legislative framework governing nuclear safety and radiation protection in Ireland is the Radiological Protection Act 1991 (No. 9 of 1991), as amended by Section 26 of the Energy (Miscellaneous Provisions) Act, 1995 (No 35 of 1995) and by the Radiological Protection (Amendment) Act 2002 (No. 3 of 2002). Other main legislation relevant to nuclear matters is as follows:-
6. The Radiological Protection Act 1991 (Ionising Radiation) Order 2000 (S.I. No. 125 of 13 May 2000), hereinafter referred to as the Ionising Radiation Order. (The Ionising Radiation Order incorporates the requirements of the European Communities (Ionizing Radiation) Regulations, 1991 and the European Communities Protection of Outside Workers from Ionizing Radiation) Regulations, 1994, which are now repealed)
7. European Communities (Supervision and control of certain shipments of radioactive waste) Regulations 1994 (S.I. No. 276 of 1994);
8. European Communities (Radiological Emergency Warning to Public) Regulations 1993 (S.I. No. 209 of 1993);
9. All practices involving sources of ionising radiation other than exempted sources are subject to control by licence issued by the Radiological Protection Institute of Ireland in accordance with the requirements set out in the Ionising Radiation Order mentioned above. This Order covers both site specific emergency plans, which must be prepared by undertakings, when directed to do so by the RPII, licensed to carry on defined categories of practices, and the National Emergency Plan for Nuclear Accidents, which provides a framework for the national response to an event with wide spread radiological impact. Additionally, the Ionising Radiation Order places legal requirements on all licensees regarding notification of incidents.
10. In 2000, the IAEA carried out a Peer review mission of the RPII's licensing system. The IAEA review covered all areas of the work of the RPII's Regulatory Service, with the exception of the regulation of the transport of radioactive materials. In summary, the review team was of the opinion that the essential legal infrastructure for radiation protection is well established in Ireland and that the regulatory programme operated by the RPII's Regulatory Service is effective. The team, however, felt that the RPII's Regulatory Service would benefit from a thorough review of work priorities in licensing inspection and policy and guidance, to ensure that the activities of the Service remain well focussed.

11. In March 2000, Ireland became the 25th State to ratify the Joint Convention on the Safety of Radioactive Waste and the Safety of Spent Fuel Management, thus triggering the entry into force of the Convention. . Many aspects of the Convention, though not all, are already present in domestic law.
12. The Freedom of Information Act, 1997 contains an amendment to Section 36 of the Radiological Protection Act 1991. The amendment deals with confidentiality.
13. European Communities (Medical Ionising Radiation Protection) Regulations, 2002 (S.I. No. 478 of 2002)
14. A new piece of secondary legislation that is relevant here is: The Radiological Protection Act 1991 (Control of High-activity sealed radioactive sources) Order 2005 (S.I no 875 of 2005)
15. Another piece of legislation that is relevant is here :The EURATOM Safeguards regulations which equally apply in Ireland

Article 8 – Regulatory Body

Radiological Protection Institute of Ireland (RPII)

16. The RPII is a State sponsored body established under the Radiological Protection Act, 1991. The RPII, which is accountable to the Minister for Environment, Heritage and Local Government, carries out the following duties:
 - provision of advice to the Government, the Minister for the Environment, Heritage and Local Government and other Ministers on matters relating to radiological safety;
 - provision of information to the public on any matter relating to radiological safety; which the Institute deems fit
 - maintenance and development of a national laboratory for the measurements of levels of radioactivity in the environment, and assessment of the significance of these levels for the Irish population;
 - provision of a personnel dosimetry and instrument calibration service for those who work with ionizing radiation;
 - control by licence the custody, use, manufacture, importation, transportation, distribution, exportation and disposal of radioactive substances, irradiating apparatus and other sources of ionising radiation;
 - assisting in the development of national plans for emergencies arising from nuclear accidents and acting in support of such plans;
 - provision of a radioactivity measurement and certification service;

- preparation of codes and regulations for the safe use of ionizing radiation;
- carrying out or promoting research in relevant fields;
- monitoring developments abroad relating to nuclear installations and radiological safety generally, and keeping the Government informed of their implications for Ireland;
- co-operating with the relevant authorities in other States and with appropriate international organisations;
- representing the State on international bodies;
- to be the competent authority for Ireland under International Conventions on nuclear matters.

17. The RPII has also been made the national competent authority for the purposes of the IAEA Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency and the Convention on Early Notification of a Nuclear Accident and is the National authority responsible for the physical protection of nuclear material.

Article 16.3 Emergency Preparedness Site Emergency Planning

18. Undertakings licensed to carry on certain defined categories of practice, such as transportation of radioactive materials, industrial radiography, industrial irradiation, nuclear medicine and radiotherapy are required, under the Ionising Radiation Order, to prepare detailed emergency plans when directed to do so by the RPII. These plans must be based on risk assessment and must address potential risks to workers, intervention personnel (e.g. fire services) and, where appropriate, members of the public. These plans must address issues such as resources, consultation with relevant stakeholders, emergency procedures, training, exercises and review. The Ionising Radiation Order requires that undertakings submit the plans to the RPII. It also requires that undertakings immediately notify the RPII of an emergency and to inform the local emergency services of the circumstances with respect to the emergency. A protocol is being drafted by the DEHLG to assist inter-agency emergency response by fire, ambulance and police services to local radiological incidents. It should be noted that Ireland does not have any sources equivalent to Treat Categories I or II as defined for the purposes of IAEA Safety Requirements GS-R-2.

National Emergency Plan for Nuclear Accidents (NEPNA)

19. In accordance with the Ionising Radiation Order, the Minister for the Environment Heritage and Local Government must prepare a plan referred to as the "National Emergency Plan for Nuclear Accidents". NEPNA is intended specifically to cater for a widely dispersed radiological emergency or crisis such as that arising from a major accident at a nuclear installation abroad resulting in radioactive contamination reaching Ireland. NEPNA sets out a framework for a coordinated national response to an event where the response is beyond the resources or capabilities of any individual Government

Department or public authority and as such requires the political and strategic involvement of Government. NEPNA is one of a number of complementary national and local authority plans designed to cater for different types of emergency situation. The main elements of NEPNA cover:

- mechanisms for raising the alarm;
 - the roles of Ministers of the Government and other public authorities/agencies;
 - procedures for mobilisation of the resources and expertise from across the State;
 - effective coordination at both political and official levels so as to ensure that all State resources are distributed to good effect and that gaps in the response arrangements are not allowed to develop;
 - arrangements for effective communication with the public.
20. The national response to a widespread radiological emergency or crisis is likely to involve mobilisation of the resources and expertise from a broad range of public authorities/agencies within the State. The NEPNA envisages that in the event of a major radiological emergency or crisis that an Emergency Response Coordination Committee (ERCC) would be convened to coordinate the response. The ERCC is made up of officials from key Government Departments and other public authorities and is chaired by DEHLG. This ERCC is responsible, inter alia, for providing advice on countermeasures and for co-ordinating their implementation. The RPII has a special responsibility for radioactivity monitoring and for the provision of advice on the potential consequences of any accident and on the measures to be taken. Other Government Departments and statutory organisations have responsibilities, within the Plan to advise on and establish appropriate procedures to implement measures within their particular fields of competence. In an emergency, the ERCC would meet in a dedicated centre which has been specifically equipped to coordinate the national response.
21. The NEPNA formalises earlier arrangements for responding to overseas nuclear accidents, which were put in place following the accident at Chernobyl. The main elements of the emergency arrangements in existence in Ireland are published in a booklet entitled "National Emergency Plan for Nuclear Accidents" which is available free of charge from the Department of Environment, Heritage and Local Government.

Notification of a Nuclear Incident

22. Early notification of a nuclear accident abroad would be received in Ireland through either or both of the following:-
- The European Community Urgent Radiological Information Exchange (ECURIE) arrangements, which have been set up within the European Union to implement Council Decision 87/600/Euratom providing for the early exchange of information in the event of a radiological emergency.
 - The IAEA EMERCON arrangements, which are based on the 1986 Early Notification Convention.

23. The Irish National Contact Point (NCP) for both ECURIE and EMERCON is operated by the national police service, An Garda Síochána. The RPII is the national competent authority for both sets of arrangements. The RPII operates an on-call duty officer system, whereby a senior member of RPII staff is available 24 hours a day, 7 days a week to assess any alert and where necessary to activate the emergency response. On receipt of an alert notification, the NCP will immediately contact the RPII duty officer who will make an initial assessment of the situation. Where appropriate, the duty officer together with other key staff from the RPII and the Department of the Environment, Heritage and Local Government will consider whether the ERCC should be convened. In the event that the decision is taken to convene the ERCC, arrangements are in place for the police to rapidly notify the appropriate key staff in the relevant Government Departments and public authorities.
24. In the event of an incident occurring at nuclear installations in the UK, arrangements have operated since 1992 whereby the UK Department of Trade and Industry (DTI) informs Ireland's DEHLG and the RPII when it is notified of an incident on UK territory involving a release of radioactivity into the environment. This is regardless of whether the incident has any radiological significance for Ireland. More recently a bilateral agreement covering information exchange has been concluded between the RPII and the UK Nuclear Installations Inspectorate (NII). This agreement covers both routine bilateral meetings between the two regulatory agencies and arrangements for rapid exchange of information in the event of an incident or accident. On 10th December 2004, Ireland and the Government of the United Kingdom and Northern Ireland signed a Bilateral Agreement on Notification in the Case of a Nuclear Accident or Radiological Emergency. This Agreement was designed to formalise the above-mentioned existing arrangements by ensuring that exchanges of information happen on agreed basis through specified channels.

Arrangements for the Early Detection of Atmospheric Contamination

25. The RPII, in conjunction with Ireland's weather service (Met Éireann), operates a national network of Permanent Monitoring Stations (PMS), which is designed to provide early measurements of radioactive contamination in the event of a major accident. This network includes 15 stations equipped with automatic gamma dose rate monitoring equipment and 12 stations equipped with continuous air samplers.
26. Data from the gamma dose stations, which are operational around the clock, are continuously fed back to a central computer at RPII. In the event that elevated radiation levels are detected, an alarm is automatically raised. An additional 27 non automated gamma dose stations can be activated rapidly to supplement data from the online systems. Air samplers are equipped with both aerosol and gaseous iodine filters. In the event that an alert has been raised arrangements are in place to quickly collect and test a wide range of environmental and food-chain samples.
27. Following on from a major test of Ireland's nuclear emergency response arrangements in 2001 (see paragraphs 30–31 below), the RPII has recently completed a review of these radioactivity monitoring arrangements. This review concluded that, while the existing PMS network remained broadly fit for its purpose, it should be enhanced and expanded

so as to improve the geographic coverage, the system reliability and the range of measurements. A programme is currently being completed to address these issues.

Arrangements for assessing the potential impact of a nuclear accident/incident

28. Since 2000, the RPII has implemented the ARGOS (Accident Report and Guiding Operational System) decision support tool as its primary platform for handling environmental data in an emergency. ARGOS was originally developed by the Danish Emergency Management Agency (DEMA) in association with Prolog Development Centre Inc. Ongoing development and maintenance of the system is now managed by an international consortium consisting of DEMA, RPII, the Swedish Radiation Protection Authority (SSI), the Norwegian Radiation Protection Authority (NRPA) and Health Canada, the Australian Radiation Protection and Nuclear Safety agency, the Estonian Radiation Protection Centre, the Lithuanian ministry of Environment and the Polish National Atomic Energy Agency. The ARGOS system allows prognostic, measurement, agricultural and meteorological data to be viewed and overlaid in a geographic information system. The system is updated regularly so that any lessons learnt from exercises or emergency use can quickly be incorporated into operational systems.

Public Information

29. Measures to keep the public informed about a nuclear accident or emergency are addressed in the NEPNA. Arrangements are in place to inform the public of the accident, its consequences and of any countermeasures that are to be implemented to reduce doses to the population. This information would be issued through media channels: radio, TV including teletext, internet, press statements and press conferences. Regular updates of the situation would be given.

30. In Ireland, the EU Council Directive (89/618/Euratom) on informing the general public about the health protection measures to be applied and the steps to be taken in the event of a radiological emergency, is implemented by means of the European Communities Act, 1972 (Radiological Emergency Warning to Public) Regulations, 1993. The RPII is the Competent Authority for the purpose of these Regulations.

31. Measures are in place to keep the public informed about emergency planning arrangements. An information leaflet on the NEPNA was distributed to libraries and citizen information centres in 2006. This leaflet and other information on nuclear emergency preparedness is available on the websites of the DEHLG and the RPII. Supplies of stable iodine tablets are available from local health authorities in an emergency. Public opinion is an important part of emergency preparedness and comments received from the public are taken into consideration as part of the planning process. Emergency planning developments are addressed and arrangements are published in the Annual reports of the RPII and other statutory agencies such as local authorities update their emergency planning procedures including for nuclear emergencies on a regular basis. These are also published.

32. Through the Government Information Service, an emergency response press officers' group has been established. This group would coordinate media response across Government Departments and public authorities in the event of a major emergency or crisis.

Exercises of the emergency arrangements

33. In 2001, a major nuclear emergency exercise was carried out in Ireland. External consultants were engaged by the DEHLG to conduct a comprehensive test of the NEPNA. This project included a critical review of the existing plans, a table top exercise to examine some of the issues confronted in the plan and the large scale exercise (Operation Graystorm) conducted in November 2001. The consultants made 37 specific recommendations for improving the NEPNA in their report of August 2002. These recommendations cover aspects of NEPNA such as national emergency preparedness structures, threat assessment, the functioning of the ERCC, clarification of roles and responsibilities, alerting mechanisms and communication with the public. In 2005, Ireland participated in the INEX-3 exercise which concentrated on agricultural countermeasures and food restrictions following a nuclear accident. Valuable lessons were learned which will be reflected in our approach to the subsequent exercises in 2007 which is designed to test suitability of the draft generic European food recovery handbook (EURANOS) in the context of the Irish food and agricultural industry.
34. 31. The recommendations in the consultant's report have been acted upon by DEHLG and the RPII as well as by emergency planners across other Government Departments and public authorities. Some of the key developments in this area include: the establishment of the Office of Emergency Planning; the introduction of a formal procedure to audit emergency response plans and arrangements of Government Departments; preparation of a report by an inter-Departmental group setting out recommendations for the establishment of a National Emergency Coordination Centre (NECC), and the completion by the RPII of a review of national monitoring arrangements. An NECC would be developed to meet the needs of the community in the event of an emergency situation, including a nuclear emergency. An emergency, in this regard, has been defined as an event, incident or situation, that may present a serious threat to the welfare of the population, the environment, the political, administrative, economic stability or the security of the state, which will require the political and strategic involvement of the Government. Identification of an appropriate location for the NECC and associated requirements such as communications structures are well advanced. With regard to the RPII's national monitoring arrangements, an upgrade of the RPII monitoring equipment is currently in hand. In addition to these measures, significant improvements have been made in a number of areas including: alerting arrangements, threat assessment, exercise programmes, public information and emergency data management. On foot of the consultant's report, regular national exercises are planned, and it is the intention that the next major exercise will be developed for 2008/9. In the last few years, much effort has been spent on implementing the recommendations following from the major exercise of the NEPNA in 2001. Among the achievements were the development of the National Emergency Coordination Centre (NECC). The facility is a purpose built suite of offices which is equipped with robust

communications to allow the coordination of any national emergency between national and local authorities.

35. Communication systems and arrangements for exchange of early notifications are tested regularly. A detailed programme of testing for the ECURIE arrangements is coordinated by the European Commission. This includes daily tests of the physical communication lines, tests of the NCP (4 times per year), tests of the duty officer contact arrangements (4 time per year) and the exchange of simulated radiological data between Member States once a year. Equivalent arrangements are in place to test the EMERCON notification system coordinated by the IAEA.
36. It is recognised that international cooperation on exercises is essential. Irish authorities regularly participate in international exercises such as those in the INEX series and those coordinated by the IAEA. Ireland plans to participate in both the INEX-3 and Convex 3 exercises scheduled for 2008. There is also close co-operation with the relevant UK authorities, in particular those in Northern Ireland, on emergency exercises.
37. In addition to participation in major national exercises, individual public authorities and agencies which have been assigned responsibilities under the NEPNA are required to routinely test their emergency arrangements. The RPII, for example, routinely tests its arrangements including: communications arrangements, duty officer arrangements, emergency laboratory procedures and technical assessment.

Conclusions

During the 3rd Peer Review meeting a number of questions were raised by some contracting parties in relation to Ireland's National Emergency Plan arrangements and also regarding the IAEA Peer Review of 2001 of the RPII's licensing system. Detailed responses to these questions were provided at the time to the issues raised. Nevertheless, these issues have been addressed where appropriate in this latest report.

The Department of the Environment, Heritage and Local Government considers that the information in this Report describes Ireland full compliance with the Convention on Nuclear Safety.

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